PSEUDOTSUGA MENZIESII - THUJA PLICATA / OXALIS OREGANA

Douglas-fir - western redcedar / Oregon oxalis
Abbreviated Name: PSME-THPL/OXOR

Sample size = 7 plots

DISTRIBUTION: Within the Puget Trough, occurs infrequently in southern Pierce, Lewis, Cowlitz, Clark, and possibly Thurston, counties. Occurs more commonly in the western Cascades of southern Washington. Also occurs in northwestern Oregon, in the Willapa Hills and perhaps on the southern Olympic Peninsula.

GLOBAL/STATE STATUS: G3G4S3. Rare in the Puget Trough. Development and non-native species are threats in the Puget Trough. More common in adjacent ecoregions where most natural-origin stands have been harvested.

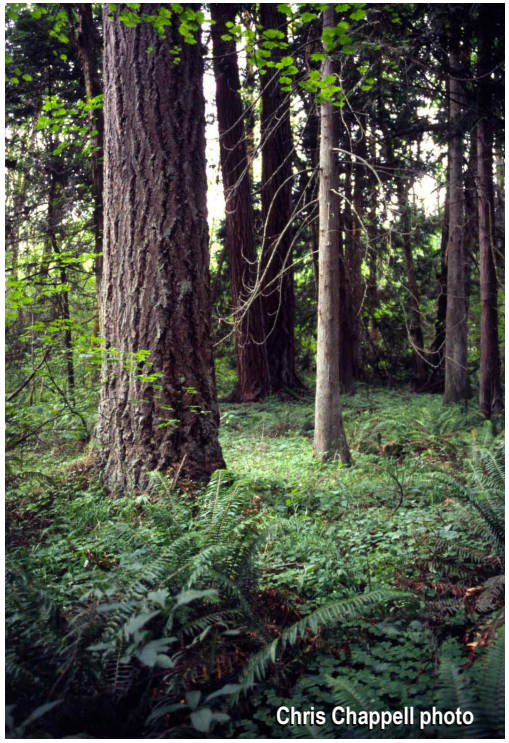
ID TIPS: Oregon oxalis and sword fern each provide >5% cover and typically co-dominate the understory. Devils club <10% cover if present.

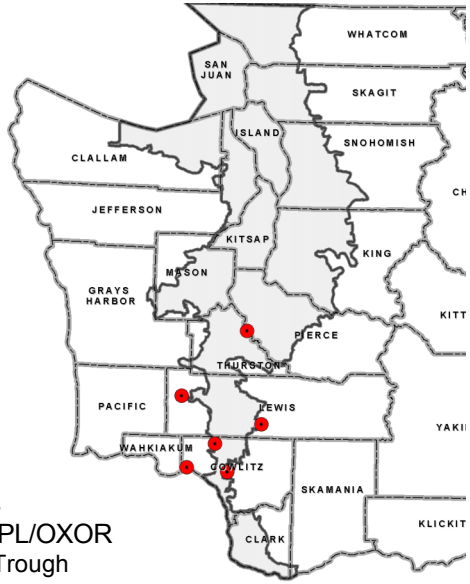
ENVIRONMENT: These sites are moist to very moist and appear to be relatively nutrient-rich. Slopes are mostly gentle to moderate and aspect is northerly or easterly. All samples are from lower slopes or riparian terraces. Parent materials include ancient basaltic residuum, alluvium, and glaciofluvial sediments. Silt loam and silty clay loam were the mapped soil textures. Mean annual precipitation is high for the Puget Trough.
Precipitation: 46-90 inches (mean 64)
Elevation: 40-1000 feet
Aspect/slope: NNW to SE/ 0-65% (mean 30)
Slope position: lower, bottom (terrace)
Soil series: Olympic, Cinebar, Olequa, Puyallup

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance, though on riparian terraces flooding will also be important. Old-growth stands show evidence of past low- to moderate-severity fire (underburns). Hemlock and/or redcedar increase over time in absence of disturbance, Douglas-fir decreases. Young stands may have little hemlock or redcedar. Red alder may regenerate abundantly after disturbance if a seed source is present and mineral soil is exposed. Alder will typically die out after 80-100 years. Salmonberry and several forbs may increase in abundance after ground surface disturbance.

Vegetation Composition Table (selected species):
Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found.

Trees	Kartesz 2003 Name	Con	Cov
Douglas-fir	Pseudotsuga menziesii var. menziesii	100	52
western redcedar	Thuja plicata	100	37
western hemlock	Tsuga heterophylla	86	19
bigleaf maple	Acer macrophyllum	71	25
cascara	Frangula purshiana	57	+
grand fir	Abies grandis	43	6
Shrubs, Subshrubs			
vine maple	Acer circinatum	86	18
red huckleberry	Vaccinium parvifolium	71	7
red elderberry	Sambucus racemosa var. racemosa	71	2
trailing blackberry	Rubus ursinus ssp. macropetalus	57	+
salal	Gaultheria shallon	57	2
dwarf Oregongrape	Mahonia nervosa	43	4
beaked hazelnut	Corylus cornuta var. californica	43	3
Indian plum	Oemleria cerasiformis	43	2
salmonberry	Rubus spectabilis var. spectabilis	43	1
devils club	Oplopanax horridus	14	3
Forbs and Ferns			
Oregon oxalis	Oxalis oregana	100	39
sword fern	Polystichum munitum	100	34
western trillium	Trillium ovatum ssp. ovatum	86	1
spreading woodfern	Dryopteris expansa	71	4
inside-out flower	Vancouveria hexandra	71	2
Siberian springbeauty	Claytonia siberica var. siberica	71	+
lady-fern	Athyrium filix-femina ssp. cyclosorum	57	3
sweet-scented bedstraw	Galium triflorum	57	+
Pacific bleedingheart	Dicentra formosa ssp. formosa	43	4
Columbia windflower	Anemone deltoidea	43	1
Smith's fairybells	Prosartes smithii	43	1
slender-stem waterleaf	Hydrophyllum tenuipes	43	+
clasping-leaved twisted-stalk	Streptopus amplexifolius var. amplexifolius	43	+





Plot locations
of PSME-THPL/OXOR
in the Puget Trough

Douglas-fir - western redcedar / Oregon oxalis

VEGETATION: Forest co-dominated by Douglas-fir, western redcedar, and sometimes western hemlock also. Western hemlock or western redcedar typically dominate tree regeneration. Bigleaf maple usually forms a prominent to co-dominant lower canopy layer. Sword fern and Oregon oxalis co-dominate the understory. Vine maple usually forms a prominent to dominant tall shrub layer. Red huckleberry, red elderberry, inside-out flower, spreading woodfern, Siberian springbeauty, western trillium, trailing blackberry, salal, sweet-scented bedstraw, and lady-fern are usually present.

CLASSIFICATION NOTES: Described by Chappell (1997) as TSHE/POMU-OXOR and by Chappell (2001) as PSME-TSHE/POMU-OXOR. This association correlates with NatureServe (2004) types that are called TSHE/OXOR-POMU and TSHE/OXOR. This association is very similar to TSHE/POMU-OXOR from Gifford Pinchot National Forest (Topik et al 1986) and to TSHE-OXOR from northwestern Oregon (McCain and Diaz 2002a&b). Related types (including one named TSHE/POMU-OXOR) on Olympic National Forest (Henderson et al. 1989) differ in associated understory species from the Puget Trough type and have much less Douglas-fir. We consider these more maritime types to be a different association than our PSME-THPL/OXOR.

MANAGEMENT NOTES: Red alder can regenerate abundantly after logging of this association. These sites are very productive for tree growth. Non-native English ivy (*Hedera helix*) does well on these sites and if present can quickly overwhelm the native understory. Herb Robert (*Geranium robertianum*) is another threatening invasive for this association.